



Complete Summary

TITLE

Standardized methods for labeling, packaging and storing medications: percentage of failures in conservation and storage of medications in the hospital pharmacy.

SOURCE(S)

Ministry of Health. Safe practices indicators project: background, summary of methods and measurement strategies. Madrid: Ministry of Health; 2009 Feb 20. 97 p.

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to determine the percentage of failures in conservation and storage of medications in the hospital pharmacy service. The aspects assessed in a selected list of medications are: use-by date; separation of concentrates; safekeeping under lock and key; refrigeration and protection from light. In the case of antidotes the following will also be assessed: (a) in general: the existence of a list of available antidotes, location separated from other drugs; and (b) in a selected list of them: use-by dates, adequate stock, and easy (rapid) location.

RATIONALE

Improper labeling and packaging of medications are well-known causes of serious medication errors. However, the evidence shows that there are effective methods for simplifying pharmacy dispensing by standardizing the labeling of medication

containers and drawn-up syringes and the packaging of medications. Failures in conservation and storage of medications in the hospital pharmacy service increase the risk of drug-related adverse events in the entire hospital.

Main aim of indicator: to reduce the percentage of failures in conservation and storage of medications in the hospital pharmacy service.

PRIMARY CLINICAL COMPONENT

Failures in conservation and storage of medication; hospital pharmacy

DENOMINATOR DESCRIPTION

Total number of possible failures assessed

Note: The aspects assessed in a selected list of medications are: use-by date; separation of concentrates; safekeeping under lock and key; refrigeration and protection from light. In the case of antidotes the following will also be assessed: (a) in general: the existence of a list of available antidotes, location separated from other drugs; and (b) in a selected list of them: use-by dates, adequate stock, and easy (rapid) location.

NUMERATOR DESCRIPTION

Number of failures detected x 100

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Overall poor quality for the performance measured
Variation in quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

Ministerio de Sanidad y Consumo. Indicadores de buenas practicas sobre seguridad del paciente. Resultados de su medicion en una muestra de hospitales del sistema nacional de salud Español. Madrid: Ministerio de Sanidad y Consumo; 2008. 95 p.

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Pharmacists

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Unspecified

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Average percentage of failures in conservation and storage of medications in the hospital pharmacy is $10.7\% \pm 1.8$ (95% Confidence Interval).

EVIDENCE FOR INCIDENCE/PREVALENCE

Ministerio de Sanidad y Consumo. Indicadores de buenas practicas sobre seguridad del paciente. Resultados de su medicion en una muestra de hospitales

del sistema nacional de salud Español. Madrid: Ministerio de Sanidad y Consumo; 2008. 95 p.

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

Unspecified

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

End of Life Care
Getting Better
Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Safety

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Hospital Pharmacy. Possible failures assessed in a selected list of drugs*.

*Lidocaine, Morphine, Insulin, Heparin, Electrolytes, Chlorpromazine, Selected antidotes

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

Total number of possible failures assessed

Note: The aspects assessed in a selected list of medications are: use-by date; separation of concentrates; safekeeping under lock and key (Morphine); refrigeration (Insulin, selected antidotes) and protection from light (Chlorpromazine). In the case of antidotes the following will also be assessed: (a) in general: the existence of a list of available antidotes, location separated from other drugs; and (b) in a selected list of them: use-by dates, adequate stock, and easy (rapid) location.

For more detailed information, see original validation report listed in the "Companion Documents" field.

Exclusions

None

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Therapeutic Intervention

DENOMINATOR TIME WINDOW

Time window is a single point in time

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

Number of failures detected x 100

Exclusions

None

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Encounter or point in time

DATA SOURCE

Special or unique data

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

None

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a lower score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

After pilot testing, the set of indicators has been measured in a random sample of 25 Spanish hospitals, stratified by hospital size. The main objective has been to field test the feasibility of measurement in the various settings representing real life situations in the context of the Spanish Health Care System.

Both the whole indicators validation report and the results of the baseline measurement in a sample of the Spanish National Health Service (NHS) hospitals may be accessed and downloaded from the Spanish Ministry of Health web page (in Spanish):

- [Validation report](#)
- [Results of baseline measurement in Spanish NHS hospitals](#)

EVIDENCE FOR RELIABILITY/VALIDITY TESTING

Ministerio de Sanidad y Consumo. Construcción y validación de indicadores de buenas prácticas sobre seguridad del paciente. Madrid: Ministerio de Sanidad y Consumo; 2008. 178 p.

Ministerio de Sanidad y Consumo. Indicadores de buenas practicas sobre seguridad del paciente. Resultados de su medicion en una muestra de hospitales del sistema nacional de salud Español. Madrid: Ministerio de Sanidad y Consumo; 2008. 95 p.

Ministry of Health. Safe practices indicators project: background, summary of methods and measurement strategies. Madrid: Ministry of Health; 2009 Feb 20. 97 p.

Identifying Information

ORIGINAL TITLE

Percentage of failures in conservation and storage of medications in the hospital pharmacy.

MEASURE COLLECTION

[Safe Practices Indicators Project](#)

MEASURE SET NAME

[Increase Safe Medication Use](#)

MEASURE SUBSET NAME

[Standard Methods for Labeling, Packaging and Storing Medication](#)

SUBMITTER

Spanish Agency for Healthcare Quality of the Spanish Ministry of Health

DEVELOPER

Grupo de Investigación sobre Gestión de la Calidad en Servicios de Salud, University of Murcia, under contract to the Spanish Ministry of Health

FUNDING SOURCE(S)

Agency for Quality, Spanish Ministry of Health

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

Saturno, Pedro J., MD, DrPH; Group Director and Project PI

Castillo, Carmen; López, M. José; Ramón, Teresa; Nurses

Carrillo, Andrés, MD; Intensive Care Specialist

Iranzo, M. Dolores; Hospital pharmacist

Soria, Victor, MD; Surgeon

Parra, Pedro, MD; Gomis, Rafael, MD; Gascón, Juan J., MD; Quality Management Specialists

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

Project entirely financed by the Spanish Ministry of Health.

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2009 Feb

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

Ministry of Health. Safe practices indicators project: background, summary of methods and measurement strategies. Madrid: Ministry of Health; 2009 Feb 20. 97 p.

MEASURE AVAILABILITY

The individual measure, "Percentage of Failures in Conservation and Storage of Medications in the Hospital Pharmacy," is published in "Safe Practices Indicators Project: Background, Summary of Methods and Measurement Strategies."

For more information, contact:

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COMPANION DOCUMENTS

The following are available:

- Ministerio de Sanidad y Consumo. Construcción y validación de indicadores de buenas prácticas sobre seguridad del paciente. Madrid: Ministerio de Sanidad y Consumo; 2008. 178 p. This document is available in Portable Document Format (PDF) from the [Ministry of Health and Social Policy Web site](#) (in Spanish).
- Ministerio de Sanidad y Consumo. Indicadores de buenas prácticas sobre seguridad del paciente. Resultados de su medición en una muestra de hospitales del sistema nacional de salud Español. Madrid: Ministerio de Sanidad y Consumo; 2008. 95 p. This document is available in PDF from the [Ministry of Health and Social Policy Web site](#) (in Spanish).

NQMC STATUS

This NQMC summary was completed by ECRI Institute on September 11, 2009. The information was verified by the measure developer on December 23, 2009.

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